

## § 23.1099

(b) If the available preheat exceeds 50 °F. but is less than 100 °F., the capacity of the system may be decreased in proportion to the heat rise available in excess of 50 °F.

### § 23.1099 Carburetor deicing fluid system detail design.

Each carburetor deicing fluid system must meet the applicable requirements for the design of a fuel system, except as specified in §§ 23.1095 and 23.1097.

### § 23.1101 Induction air preheater design.

Each exhaust-heated, induction air preheater must be designed and constructed to—

- (a) Ensure ventilation of the preheater when the induction air preheater is not being used during engine operation;
- (b) Allow inspection of the exhaust manifold parts that it surrounds; and
- (c) Allow inspection of critical parts of the preheater itself.

[Doc. No. 4080, 29 FR 17955, Dec. 18, 1964, as amended by Amdt. 23-43, 58 FR 18974, Apr. 9, 1993]

### § 23.1103 Induction system ducts.

(a) Each induction system duct must have a drain to prevent the accumulation of fuel or moisture in the normal ground and flight attitudes. No drain may discharge where it will cause a fire hazard.

(b) Each duct connected to components between which relative motion could exist must have means for flexibility.

(c) Each flexible induction system duct must be capable of withstanding the effects of temperature extremes, fuel, oil, water, and solvents to which it is expected to be exposed in service and maintenance without hazardous deterioration or delamination.

(d) For reciprocating engine installations, each induction system duct must be—

(1) Strong enough to prevent induction system failures resulting from normal backfire conditions; and

(2) Fire resistant in any compartment for which a fire extinguishing system is required.

(e) Each inlet system duct for an auxiliary power unit must be—

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(1) Fireproof within the auxiliary power unit compartment;

(2) Fireproof for a sufficient distance upstream of the auxiliary power unit compartment to prevent hot gas reverse flow from burning through the duct and entering any other compartment of the airplane in which a hazard would be created by the entry of the hot gases;

(3) Constructed of materials suitable to the environmental conditions expected in service, except in those areas requiring fireproof or fire resistant materials; and

(4) Constructed of materials that will not absorb or trap hazardous quantities of flammable fluids that could be ignited by a surge or reverse-flow condition.

(f) Induction system ducts that supply air to a cabin pressurization system must be suitably constructed of material that will not produce hazardous quantities of toxic gases or isolated to prevent hazardous quantities of toxic gases from entering the cabin during a powerplant fire.

[Doc. No. 4080, 29 FR 17955, Dec. 18, 1964, as amended by Amdt. 23-7, 34 FR 13095, Aug. 13, 1969; Amdt. 23-43, 58 FR 18974, Apr. 9, 1993]

### § 23.1105 Induction system screens.

If induction system screens are used—

(a) Each screen must be upstream of the carburetor or fuel injection system.

(b) No screen may be in any part of the induction system that is the only passage through which air can reach the engine, unless—

(1) The available preheat is at least 100 °F.; and

(2) The screen can be deiced by heated air;

(c) No screen may be deiced by alcohol alone; and

(d) It must be impossible for fuel to strike any screen.

[Doc. No. 4080, 29 FR 17955, Dec. 18, 1964; 30 FR 258, Jan. 9, 1966, as amended by Amdt. 23-51, 61 FR 5137, Feb. 9, 1996]

### § 23.1107 Induction system filters.

If an air filter is used to protect the engine against foreign material particles in the induction air supply—